

CLAIMS (Amended)

1. (amended) A mobile telephone system using a local communication network comprising: connection control devices which are respectively installed on a plurality of local communication networks; an integration exchange server which is connected to the said respective connection control devices via a private Internet network; a plurality of communication stations which function as PHS-CS and are wire-connected to the said respective connection control devices and installed along with a subscriber terminal of a local communication network; and a plurality of mobile terminals which function as PHS-PS, characterized in that:

each of the said mobile terminals comprises a radio section and a communication section which carry out communication at least with the said communication stations in compliance with a radio communication protocol;

each of the said communication stations comprises a location registration processing section which holds a plurality of IP addresses, and carries out location registration processing for the particular mobile terminal located within the vicinity thereof, a radio communication protocol processing section which communicates with the said mobile terminal in compliance with radio communication protocol, an Internet protocol processing section which communicates with the said connection control device in compliance with Internet protocol, and an IP address managing section which manages an IP address assigned to the said mobile terminal which in turn connects to the said connection control devices;

each of the said connection control devices comprises an Internet protocol processing section which holds an IP address on the Internet, and

communicates with the said respective communication stations and the said integration exchange server in compliance with Internet protocol, and a connection control section which carries out connection control based on communication data emanating from the said communication station or the said integration exchange server; and

the said integration exchange server comprises a location information database which stores the IP address of the said connection control devices, the IP addresses of the said respective communication stations, and location information in the said respective mobile terminals, an Internet protocol processing section which communicates with the said respective connection control devices in compliance with Internet protocol, and a connection control section which carries out connection control based on communication data coming from the said connection control device, and carries out connection control based on location information in the said mobile terminal obtained from the said location information database based on existing communication data.

2. (amended) The mobile telephone system using the local communication network according to claim 1, characterized in that the said connection control device further comprises a protocol converting section which converts the communication data from the said communication station or said integration exchange server to data compliant with a protocol on the PSTN, thereby causing the said connection control section to establish connection with a call destination routing through a public line network.

3. (amended) The mobile telephone system using the local communication network according to claim 1, characterized in that the said integration exchange server is further configured to be connected to a public Internet network, and if the call destination is an Internet telephone, the

said connection control section can connect to the call destination routing through the public Internet network.

4. (amended) The mobile telephone system using the local communication network according to claim 1, characterized in that the said integration exchange server is further configured to be connected to an overseas exchange installed by a dedicated international line provider, and if the call destination is a mobile telephone of a public line network subscriber, the said connection control section can connect to the call destination routing through the public line network via the overseas exchange.

5. (amended) The mobile telephone system using the local communication network according to claim 1, characterized in that the said integration exchange server is further connected to the integration exchange server installed abroad via the private Internet network.

6. (amended) The mobile telephone system using the local communication network according to claim 1, characterized in that the said communication station carries out handover processing if the said mobile terminal is moved while a call is in progress.

7. (amended) The mobile telephone system using the local communication network according to claim 1, characterized in that the said local communication network is a CATV communication network.

8. (amended) The mobile telephone system using the local communication network according to claim 7, characterized in that the said communication station comprises a CATV data reception processing section which transmits CATV data to a TV receiver.

9. (amended) The mobile telephone system using the local communication network according to claim 7, characterized in that the said connection control device comprises a CATV service processing section which

transmits CATV data to the subscriber terminal and the said communication station.

10. (amended) A mobile telephone system using a local communication network comprising: a connection control device which is installed in a local communication network; a plurality of communication stations which function as PHS-CS and are connected to the said connection control device via an Internet network; and a plurality of mobile terminals which function as PHS-PS, characterized in that:

each of the said mobile terminals comprises a radio section and a communication section which carry out communication at least with the said communication stations in compliance with radio communication protocol;

each of the said communication stations comprises a location registration processing section that holds a plurality of IP addresses, and carries out location registration processing for the particular mobile terminal located within the vicinity thereof, a radio communication protocol processing section that communicates with the said mobile terminal in compliance with radio communication protocol, an Internet protocol processing section which communicates with the said connection control device in compliance with Internet protocol, and an IP address managing section which manages an IP address assigned to the said mobile terminal which in turn connects to the said connection control device;

the said connection control device comprises a location information database which stores the IP address of the particular communication station and location information in the said respective mobile terminals, an Internet protocol processing section which communicates with the said respective connection control devices in compliance with Internet protocol, and a connection control section which carries out connection control

according to communication data from the particular communication station, and carries out connection control based on the location information in the particular mobile terminal obtained from the said location information database based on existing communication data.

11. (amended) The mobile telephone system using a local communication network according to either claim 1 or 10, characterized in that the said mobile terminal comprises a mode switching section, the said mode switching section switching the said mobile terminal to operate at least between an IP telephone mode and a PHS public mode or private mode.

12. (amended) The mobile telephone system using a local communication network according to claim 11, characterized in that if the said mobile terminal selects the IP telephone mode by means of the said mode switching section, the said mobile terminal receives control channel information transmitted from the said communication station while the control channel information is masked at a predetermined bit position.

13. (additional) A communication station that is installed in the local communication network, and relays communication between a connection control device and a mobile terminal characterized by comprising:

a location registration processing section which holds a plurality of IP addresses, and carries out location registration processing for the mobile terminal located within the vicinity thereof, a radio communication protocol processing section which communicates with the mobile terminal in compliance with radio communication protocol, an Internet protocol processing section which communicates with the connection control device in compliance with Internet protocol, and an IP address managing section which manages an IP address assigned to the mobile terminal which in turn connects to the connection control device.

14. (additional) A mobile terminal connected to a connection control device installed in a local communication network via a communication station, comprising a location registration processing section which holds a plurality of IP addresses and carries out location registration processing for the mobile terminal located within the vicinity thereof, a radio communication protocol processing section which communicates with the mobile terminal in compliance with radio communication protocol, an Internet protocol processing section which communicates with the connection control device in compliance with Internet protocol, and an IP address managing section which manages an IP address assigned to the mobile terminal which in turn connects to the connection control device, characterized by comprising:

a mode switching section, where the said mode switching section switches the mobile terminal to operate at least between an IP telephone mode and a PHS public mode or private mode.